

the method comprising:

obtaining a first digital signature from the digital content package;

digital signature and the digital content package;

obtaining a second digital signature from the license; and

second digital signature and the license.

obtaining a first encrypted key from the license;

the first encrypted key;

applying the decrypted first encrypted key to the second encrypted key to

produce the first key.

decryptable according to a decryption key (KD), and wherein the first encrypted key is the

- 4 -

decryption key (KD) encrypted with the device public key (PU-D) (i.e., (PU-D (KD))).

109. The method of claim 107 wherein the device has a public key (PU-D) and a private key (PR-D), and wherein the key available to the device is (PR-D).

110. The method of claim 107 wherein the encrypted digital content is decryptable according to a decryption key (KD), wherein the digital content package is provided by a content provider having a public key (PU-C) and a private key (PR-C), and wherein the second encrypted key is the content provider public key (PU-C) encrypted with the decryption key (KD) (i.e., KD (PU-C)).

111. The method of claim 107 wherein the second encrypted key is the basis for the first digital signature.

112. The method of claim 106 wherein deriving the second key comprises:  
obtaining a signed certificate from the license, the signed certificate having contents therein; and

applying the first key to the signature of the signed certificate to produce the contents of the certificate and also to validate the signature.

113. The method of claim 112 wherein the digital license is provided by a

- 5 -

license provider having a public key (PU-L) and a private key (PR-L), and wherein the contents of the certificate is (PU-L).

114. The method of claim 113 wherein the digital content package is provided by a content provider having a public key (PU-C) and a private key (PR-C), and wherein the signed certificate is a certificate containing the license provider public key (PU-L) and signed by the content provider private key (PR-C) (i.e., (CERT (PU-L) S (PR-C))).

115. The method of claim 113 wherein the digital content package is provided by a content provider authorized by a root source to provide the package, wherein the root source has a public key (PU-R) and a private key (PR-R) and wherein the signed certificate is a certificate containing the license provider public key (PU-L) and signed by the root source private key (PR-R) (i.e., (CERT (PU-L) S (PR-R))).

116. The method of claim 106 wherein the digital content package is provided by a content provider having a public key (PU-C) and a private key (PR-C), and wherein the first key is (PU-C).

117. The method of claim 116 wherein the encrypted digital content is decryptable according to a decryption key (KD), and wherein the first digital signature is based on the content provider public key (PU-C) encrypted with the decryption key (KD) and is signed

- 6 -

by the content provider private key (PR-C) (i.e., (KD (PU-C) S (PR-C))).

118. The method of claim 117 wherein deriving (PU-C) comprises:

deriving (KD) from a source available to the device;

applying (KD) to (KD (PU-C) S (PR-C)) to produce (PU-C).

119. The method of claim 118 wherein the device has a public key (PU-D) and a private key (PR-D), wherein the license has the decryption key (KD) encrypted with the device public key (PU-D) (i.e., (PU-D (KD))), and wherein deriving (KD) comprises:

obtaining (PU-D (KD)) from the license;

applying (PR-D) to (PU-D (KD)) to produce (KD).

120. The method of claim 119 wherein the license has a license rights description specifying terms and conditions that must be satisfied before the digital content may be rendered, the license rights description being encrypted with the decryption key (KD) (i.e., (KD (DRL))), the method further comprising applying (KD) to (KD(DRL)) to obtain the license terms and conditions.

121. The method of claim 119 wherein the license has a license rights description specifying terms and conditions that must be satisfied before the digital content may be rendered, the method further comprising:

- 7 -

evaluating the license terms and conditions to determine whether the digital content is permitted to be rendered in the manner sought;

if so, applying (KD) to the encrypted digital content to decrypt such encrypted digital content; and

rendering the decrypted digital content.

Q2  
122. The method of claim 116 wherein the encrypted digital content package is provided by a content provider authorized by a root source to provide the package, wherein the root source has a public key (PU-R) and a private key (PR-R) and wherein the first digital signature is a signed certificate containing the content provider public key (PU-C) and signed by the root source private key (PR-R) (i.e., (CERT (PU-C) S (PR-R))).

123. The method of claim 106 wherein the digital license is provided by a license provider having a public key (PU-L) and a private key (PR-L), and wherein the second key is (PU-L).

124. The method of claim 123 wherein the second digital signature is a digital signature encrypted with the license provider private key (i.e., (S (PR-L))).

125. The method of claim 124 wherein the digital content package is provided by a content provider having a public key (PU-C) and a private key (PR-C), wherein the license

- 8 -

has a certificate containing the license provider public key (PU-L) and signed by the content provider private key (PR-C) (i.e., (CERT (PU-L) S (PR-C))), and wherein deriving (PU-L) comprises:

deriving (PU-C) from a source available to the device;

obtaining (CERT (PU-L) S (PR-C)) from the license; and

applying (PU-C) to (CERT (PU-L) S (PR-C)) to validate (CERT (PU-L)

S (PR-C)), to produce (PU-L) and also to validate the content provider.

126. The method of claim 125 wherein the encrypted digital content is decryptable according to a decryption key (KD), wherein the first digital signature is based on the content provider public key (PU-C) encrypted with the decryption key (KD) and is signed by the content provider private key (PR-C) (i.e., (KD (PU-C) S (PR-C))), and wherein deriving (PU-C) comprises:

deriving (KD) from a source available to the device;

applying (KD) to (KD (PU-C) S (PR-C)) to produce (PU-C).

127. The method of claim 126 wherein the device has a public key (PU-D) and a private key (PR-D), wherein the license has the decryption key (KD) encrypted with the device public key (PU-D) (i.e., (PU-D (KD))), and wherein deriving (KD) comprises:

obtaining (PU-D (KD)) from the license;

applying (PR-D) to (PU-D (KD)) to produce (KD).

128. The method of claim 127 wherein the license has a license rights description specifying terms and conditions that must be satisfied before the digital content may be rendered, the license rights description being encrypted with the decryption key (KD) (i.e., (KD (DRL))), the method further comprising applying (KD) to (KD(DRL)) to obtain the license terms and conditions.

129. The method of claim 127 wherein the license has a license rights description specifying terms and conditions that must be satisfied before the digital content may be rendered, the method further comprising:

evaluating the license terms and conditions to determine whether the digital content is permitted to be rendered in the manner sought;

if so, applying (KD) to the encrypted digital content to decrypt such encrypted digital content; and

rendering the decrypted digital content.

130. A method for a device to interdependently validate a piece of digital content and a corresponding digital license for rendering the digital content, the digital content being encrypted, the encrypted digital content being decryptable according to a decryption key (KD) and being packaged in a digital content package, the digital content package being provided by a content provider having a public key (PU-C) and a private key (PR-C), the digital

- 10 -

license being provided by a license provider having a public key (PU-L) and a private key (PR-L), the device having a public key (PU-D) and a private key (PR-D), the digital content package comprising:

the encrypted digital content; and

the content provider public key (PU-C) encrypted with the decryption key (KD) and signed by the content provider private key (PR-C) (i.e., (KD (PU-C) S (PR-C)));

the digital license comprising:

the decryption key (KD) encrypted with the device public key (PU-D) (i.e., (PU-D (KD)));

a digital signature from the license provider (without any attached certificate) based on (KD (DRL)) and (PU-D (KD)) and encrypted with the license provider private key (i.e., (S (PR-L))); and

a certificate containing the license provider public key (PU-L) and signed by the content provider private key (PR-C) (i.e., (CERT (PU-L) S (PR-C)));

the method comprising:

obtaining (PU-D (KD)) from the license;

applying (PR-D) to (PU-D (KD)) to produce (KD);

obtaining (KD (PU-C) S (PR-C)) from the digital content package;

applying (KD) to (KD (PU-C) S (PR-C)) to produce (PU-C);

applying (PU-C) to (S (PR-C)) to validate (KD (PU-C) S (PR-C)), thereby

validating the digital content package;



applying (PU-C) to (CERT (PU-L) S (PR-C)) to validate (CERT (PU-L)

S (PR-C)), thereby validating the content provider, and also to obtain (PU-L);

obtaining (S (PR-L)) from the license; and

applying (PU-L) to (S (PR-L)), thereby validating the license.

131. The method of claim 130 wherein the digital content package further comprises a content / package ID identifying one of the digital content and the digital content package, and wherein the license further comprises the content / package ID of the corresponding digital content / digital content package, the method further comprising ensuring that the content / package ID of the license in fact corresponds to the content / package ID of the digital content / digital content package.

132. The method of claim 130 wherein the license further comprises a license rights description (DRL) specifying terms and conditions that must be satisfied before the digital content may be rendered, the method further comprising;

evaluating the license terms and conditions to determine whether the digital content is permitted to be rendered in the manner sought;

if so, applying (KD) to the encrypted digital content to decrypt such encrypted digital content; and

rendering the decrypted digital content.

[illegible]

- 12 -

133. The method of claim 132 wherein the license rights description is encrypted with the decryption key (KD) (i.e., (KD (DRL))), the method further comprising applying (KD) to (KD (DRL)) to obtain the license terms and conditions.

134. A computer-readable medium having computer-executable instructions for performing a method for a device to interdependently validate:

a digital content package having a piece of digital content in an encrypted form;

and

a corresponding digital license for rendering the digital content,

the method comprising:

deriving a first key from a source available to the device;

obtaining a first digital signature from the digital content package;

applying the first key to the first digital signature to validate the first digital signature and the digital content package;

deriving a second key based on the first digital signature;

obtaining a second digital signature from the license; and

applying the second key to the second digital signature to validate the second digital signature and the license.

135. The method of claim 133 wherein deriving the first key comprises:

- 13 -

obtaining a first encrypted key from the license;  
applying a key available to the device to the first encrypted key to decrypt  
the first encrypted key;  
obtaining a second encrypted key from the digital content; and  
applying the decrypted first encrypted key to the second encrypted key to  
produce the first key.

136. The method of claim 135 wherein the encrypted digital content is  
decryptable according to a decryption key (KD), and wherein the first encrypted key is the  
decryption key (KD) encrypted with the device public key (PU-D) (i.e., (PU-D (KD))).

137. The method of claim 135 wherein the device has a public key (PU-D) and  
a private key (PR-D), and wherein the key available to the device is (PR-D).

138. The method of claim 135 wherein the encrypted digital content is  
decryptable according to a decryption key (KD), wherein the digital content package is provided  
by a content provider having a public key (PU-C) and a private key (PR-C), and wherein the  
second encrypted key is the content provider public key (PU-C) encrypted with the decryption  
key (KD) (i.e., KD (PU-C)).

139. The method of claim 135 wherein the second encrypted key is the basis

- 14 -

for the first digital signature.

140. The method of claim 134 wherein deriving the second key comprises:

obtaining a signed certificate from the license, the signed certificate having contents therein; and

applying the first key to the signature of the signed certificate to produce the contents of the certificate and also to validate the signature.

141. The method of claim 140 wherein the digital license is provided by a license provider having a public key (PU-L) and a private key (PR-L), and wherein the contents of the certificate is (PU-L).

142. The method of claim 141 wherein the digital content package is provided by a content provider having a public key (PU-C) and a private key (PR-C), and wherein the signed certificate is a certificate containing the license provider public key (PU-L) and signed by the content provider private key (PR-C) (i.e., (CERT (PU-L) S (PR-C))).

143. The method of claim 141 wherein the digital content package is provided by a content provider authorized by a root source to provide the package, wherein the root source has a public key (PU-R) and a private key (PR-R) and wherein the signed certificate is a certificate containing the license provider public key (PU-L) and signed by the root source

144. The method of claim 134 wherein the digital content package is provided

145. The method of claim 144 wherein the encrypted digital content is

146. The method of claim 145 wherein deriving (PU-C) comprises:

147. The method of claim 146 wherein the device has a public key (PU-D) and

obtaining (PU-D (KD)) from the license;

applying (PR-D) to (PU-D (KD)) to produce (KD).

- 16 -

148. The method of claim 147 wherein the license has a license rights description specifying terms and conditions that must be satisfied before the digital content may be rendered, the license rights description being encrypted with the decryption key (KD) (i.e., (KD (DRL))), the method further comprising applying (KD) to (KD(DRL)) to obtain the license terms and conditions.

149. The method of claim 147 wherein the license has a license rights description specifying terms and conditions that must be satisfied before the digital content may be rendered, the method further comprising:

evaluating the license terms and conditions to determine whether the digital content is permitted to be rendered in the manner sought;

if so, applying (KD) to the encrypted digital content to decrypt such encrypted digital content; and

rendering the decrypted digital content.

150. The method of claim 144 wherein the encrypted digital content package is provided by a content provider authorized by a root source to provide the package, wherein the root source has a public key (PU-R) and a private key (PR-R) and wherein the first digital signature is a signed certificate containing the content provider public key (PU-C) and signed by the root source private key (PR-R) (i.e., (CERT (PU-C) S (PR-R))).

- 17 -

151. The method of claim 134 wherein the digital license is provided by a license provider having a public key (PU-L) and a private key (PR-L), and wherein the second key is (PU-L).

152. The method of claim 151 wherein the second digital signature is a digital signature encrypted with the license provider private key (i.e.,  $S(PR-L)$ ).

153. The method of claim 152 wherein the digital content package is provided by a content provider having a public key (PU-C) and a private key (PR-C), wherein the license has a certificate containing the license provider public key (PU-L) and signed by the content provider private key (PR-C) (i.e.,  $CERT(PU-L) S(PR-C)$ ), and wherein deriving (PU-L) comprises:

deriving (PU-C) from a source available to the device;

obtaining  $CERT(PU-L) S(PR-C)$  from the license; and

applying (PU-C) to  $CERT(PU-L) S(PR-C)$  to validate  $CERT(PU-L) S(PR-C)$ , to produce (PU-L) and also to validate the content provider.

154. The method of claim 153 wherein the encrypted digital content is decryptable according to a decryption key (KD), wherein the first digital signature is based on the content provider public key (PU-C) encrypted with the decryption key (KD) and is signed by the content provider private key (PR-C) (i.e.,  $KD(PU-C) S(PR-C)$ ), and wherein deriving

- 18 -

(PU-C) comprises:

deriving (KD) from a source available to the device;

applying (KD) to (KD (PU-C) S (PR-C)) to produce (PU-C).

155. The method of claim 154 wherein the device has a public key (PU-D) and a private key (PR-D), wherein the license has the decryption key (KD) encrypted with the device public key (PU-D) (i.e., (PU-D (KD))), and wherein deriving (KD) comprises:

obtaining (PU-D (KD)) from the license;

applying (PR-D) to (PU-D (KD)) to produce (KD).

156. The method of claim 155 wherein the license has a license rights description specifying terms and conditions that must be satisfied before the digital content may be rendered, the license rights description being encrypted with the decryption key (KD) (i.e., (KD (DRL))), the method further comprising applying (KD) to (KD(DRL)) to obtain the license terms and conditions.

157. The method of claim 155 wherein the license has a license rights description specifying terms and conditions that must be satisfied before the digital content may be rendered, the method further comprising:

evaluating the license terms and conditions to determine whether the digital content is permitted to be rendered in the manner sought;

2008-01-08 10:00:00